

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)
2. (Currently Amended) A microwave tube for generation of an electromagnetic wave with frequency  $F$ , the microwave tube comprising:  
mechanical means for varying the frequency  $F$ , wherein said mechanical means are composed of:  
a set of rings defining a periodic structure inside the tube; and  
mechanical means for displacing said set of rings with respect to each other while maintaining a periodicity for the periodic structure during displacement of the set of rings, wherein the mechanical means for displacing the set of rings comprises:  
a set of electrical contacts between the set of rings;  
at least one lead screw;  
a set of nuts installed on the at least one lead screw; and  
a set of rods, each rod firmly connecting a respective one of the set of nuts to a corresponding one of the set of rings, the tube being provided with at least one slit enabling the set of rods to pass in the wall of the tube, the at least one lead screw comprising several sectors with different pitches capable of keeping intervals between the set of rings during rotation of the at least one lead screw.

3. (Currently Amended) A microwave tube for generation of an electromagnetic wave with frequency  $F$ , the microwave tube comprising:
- mechanical means for varying the frequency  $F_1$  wherein said mechanical means are composed of:
- a set of rings defining a periodic structure inside the tube; and
- mechanical means for displacing said set of rings with respect to each other while maintaining a periodicity for the periodic structure during displacement of the set of rings, wherein the mechanical means for displacing the set of rings comprises:
- a set of electrical contacts between the set of rings; and
- one set of pins, each pin of said one set of pins respectively being firmly connected to a corresponding ring of the set of rings, the tube being provided with at least one longitudinal slit through which each one of the pins of the one set of pins can pass in the wall of the tube, an outer ring external to the tube comprising a set of slits, each slit in the outer ring allowing the passage of a corresponding pin of the one set of pins, each slit in the set of slits having a different inclination for each corresponding ring of the set of rings so as to maintain a periodicity for the different rings of the set of rings during displacement of the set of rings.

4-6. (Cancelled)